Fig. 1

NL1:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC    60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA   120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG   180
                              M   A   D   T   I   F   G   S   G   N   D   Q    12

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC   240
  W   V   C   P   N   D   R   Q   L   A   L   R   A   K   L   Q   T   G   W   S    32

GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG   300
  V   H   T   Y   Q   T   E   K   Q   R   R   K   Q   H   L   S   P   A   E   V    52

GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA   360
  E   A   I   L   Q   V   I   Q   R   A   E   R   L   D   V   L   E   Q   Q   R    72

ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG   420
  I   G   R   L   V   E   R   L   E   T   M   R   R   N   V   M   G   N   G   L    92

TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC   480
  S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V   F   C   112

AAAGACTGCAGGAAGGTCTGGAAGAGGTCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAG   540
  K   D   C   R   K   V   W   K   R   S   G   A   W   F   Y   K   G   L   P   K   132

TATATCTTGCCCCTGAAGACCCCTGGCCGAGCTGATGAGCCCCAGTTCCGACCTTGGCCC   600
  Y   I   L   P   L   K   T   P   G   R   A   D   E   P   Q   F   R   P   W   P   152

ACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCTGAGACCAGCCGCATCTACACGTGGGCC   660
  T   E   P   A   E   R   E   P   R   S   S   E   T   S   R   I   Y   T   W   A   172

CGAGGAAGAGTGGTTTCCAGTGACAGTGACAGTGACTCGGATCTTAGCTCCTCCAGCCTA   720
  R   G   R   V   V   S   D   S   D   S   D   S   D   L   S   S   S   S   L   192

GAGGACAGACTCCCATCCACTGGGGTCAGGGACCGGAAAGGCGACAAACCCTGGAAGGAG   780
  E   D   R   L   P   S   T   G   V   R   D   R   K   G   D   K   P   W   K   E   212

TCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGGTTCACCCAACCCGCGGGCCACCTCTTT   840
  S   G   G   S   V   E   A   P   R   M   G   F   T   Q   P   A   G   H   L   F   232
```

```
GGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACGGGCACAGGCTCTGCTGACCCGCCAGGG      900
    G   L   Q   S   S   L   A   S   G   E   T   G   T   G   S   A   D   P   P   G      252
GGAGGGACAGGCTCTGCTGACCCGCCAGGGGGGACCCCGCCCCGGGCTGACCCGAAGGGCC      960
    G   G   T   G   S   A   D   P   P   G   G   P   R   P   G   L   T   R   R   A      272
CCGGTAAAAGACACACCTGGACGAGCCCCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCC     1020
    P   V   K   D   T   P   G   R   A   P   A   A   D   A   A   P   A   G   P   S      292
AGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAACAGACTTCCCTGTGGAGGATTCCTGCC     1080
    S   C   L   G   *                                                                296
AGACCCTGCCCGGCTCCTCCCTGACCGGTCCTTGTGCCCTCACCAGACACCCTGTTGGCC     1140
ATGACTCAACAAACCAGTGTTGGGAGCCGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCAC     1200
CCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCCACCCCCTCCAACCACTGCCCTCAGCCC     1260
CCGACCTTATTTATTACCCTCCCCTCCCACACCCCCAATCTACCTGGTGATGATTTTAAG     1320
TTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTTCCCACATGCAGTGTCAGAGGGGCCGCC     1380
CGGTGGGGCTATCTCCGTTGCTATATTAATGGCAAGACTAAATGAAACCTAGGGCACGGC     1440
CTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAG     1500
ACTCACCCACCCTCTCCCTCTCCCTTCAGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCC     1560
ATGGGCTGGCCCAGGACCGCGGGTGAAACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTA     1620
TGTTTGTTTGTTTTTGACACAGTCTCGCTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGA     1680
TCGCGGCTCACTGCAACCTCCACCTCCCGGGCTCAAGCGATTCTCTCACCTCAGCCTCCT     1740
GAGTAGGTGGGATTACAGATGCCCGCCACCACACCCAGTTAATTTTTGTATTTTTAGAAG     1800
AGATGGGGTTTCTCCATGTTGGCCAGGCTGGTCTTGAACTCCTGGTCTCAAGTGATCCGC     1860
CCGCCTCGGCCTCCCAAAGTGCTGGGATTACAGGTGTGAGCCACCGCACCCAATCCTATT     1920
AGGTTTCTTTGAATCCCCTCATGGCCTGCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGA     1980
GGAGCTGGGAAGCTCTGGTGGATGCTATGAACTCACTTGCTGAAGAGCAGCGTTCAGGTG     2040
CATCCCCAGCCAGGGCACGTGGCTCCCTCAGCCATGAATTCACTTCTCTTCAGGAGGTTT     2100
GGCTTGGCATGAAAATACTTCATTCAGAGTATGGGCAAATGCTTCTGGAAAACCCTTCCC     2160
TGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTGATCACACCCTCCCATCCTTCCTGCCTC     2220
CTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCT     2280
GGGCCCCCACCATTCACTTTTTGTCCTTGCTGCTGGCAAACAGTAAAGAAACTCACTTTC     2340
CCTGTGGCACGTTATGCTTCAGAATTAAAACAATGAAGATTAAAA                   2385
```
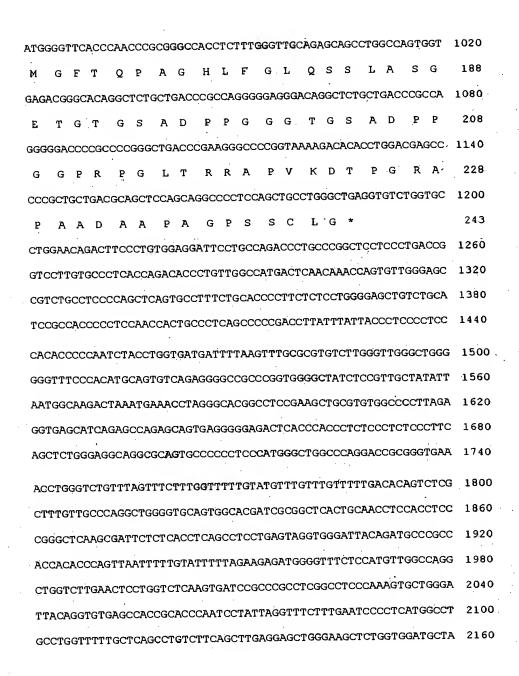
Fig. 2

CL1:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC        60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA       120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG       180
                                      M  A  D  T  I  F  G  S  G  N  D  Q     12

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC       240
    W  V  C  P  N  D  R  Q  L  A  L  R  A  K  L  Q  T  G  W  S      32

GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG       300
    V  H  T  Y  Q  T  E  K  Q  R  R  K  Q  H  L  S  P  A  E  V      52

GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA       360
    E  A  I  L  Q  V  I  Q  R  A  E  R  L  D  V  L  E  Q  Q  R      72

ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG       420
    I  G  R  L  V  E  R  L  E  T  M  R  R  N  V  M  G  N  G  L      92

TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC       480
    S  Q  C  L  L  C  G  E  V  L  G  F  L  G  S  S  V  F  C      112

AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG       540
    K  D  C  R  K  K  V  C  T  K  C  G  I  E  A  S  P  G  Q  K     132

CGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTCGGGG       600
    R  P  L  W  L  C  K  I  C  S  E  Q  R  E  V  W  K  R  S  G     152

GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGCCGAGCT       660
    A  W  F  Y  K  G  L  P  K  Y  I  L  P  L  K  T  P  G  R  A     172

GATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT       720
    D  D  P  H  F  R  P  L  P  T  E  P  A  E  R  E  P  R  S  S     192

GAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTGGTTTCCAGTGACAGTGACAGT       780
    E  T  S  R  I  Y  T  W  A  R  G  R  V  V  S  S  D  S  D  S     212

GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC       840
    D  S  D  L  S  S  S  S  L  E  D  R  L  P  S  T  G  V  R  D     232
```

```
CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG    900
  R  K  G  D  K  P  W  K  E  S  G  G  S  V  E  A  P  R  M  G    252
TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG    960
  F  T  Q  P  A  G  H  L  F  G  L  Q  S  S  L  A  S  G  E  T    272
GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA   1020
  G  T  G  S  A  D  P  P  G  G  T  G  S  A  D  P  P  G  G      292
CCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCCCCCGCT   1080
  P  R  P  G  L  T  R  R  A  P  V  K  D  T  P  G  R  A  P  A    312
GCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA   1140
  A  D  A  A  P  A  G  P  S  S  C  L  G  *                      325
CAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT   1200
GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGTCTG   1260
CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC   1320
ACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCCCACACC   1380
CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTT   1440
CCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC   1500
AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGAGGTGAG   1560
CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT   1620
GGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAAACCTGG   1680
GTCTGTTTAGTTTCTTTGGTTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCGCTTTGT   1740
TGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT   1800
CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA   1860
CCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC   1920
TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG   1980
```

```
GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG   2040

TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT   2100

CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC   2160

ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAGAGTATG   2220

GGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG   2280

ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG   2340

GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCTTGCTGC   2400

TGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTAAAACAA   2460

TGAAGATTAAAA                                                   2472
```

Fig. 3

CL2:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC     60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA    120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG    180

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT    240

GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC    300

TGGTCGGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG    360

GAGGTGGAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG    420

CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC    480
                                           M   R   R   N   V   M   G   N      8

GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG    540
    G   L   S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V     28

TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC    600
    F   C   K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G     48

CAGAAGCGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG    660
    Q   K   R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R     68

TCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGC    720
    S   G   A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G     88

CGAGCTGATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGA    780
    R   A   D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R    108

AGCTCTGAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTGGTTTCCAGTGACAGT    840
    S   S   E   T   S   R   I   Y   T   W   A   R   G   R   V   V   S   S   D   S    128

GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC    900
    D   S   D   S   D   L   S   S   S   S   L   E   D   R   L   P   S   T   G   V    148

AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG    960
    R   D   R   K   G   D   K   P   W   K   E   S   G   G   S   V   E   A   P   R    168
```

```
ATGGGGTTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT   1020
   M   G  F  T   Q  P   A  G   H  L  F   G  L   Q  S  S   L A   S  G      188
GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCA   1080
   E   T  G  T   G  S   A  D   P   P  G   G  G   T  G   S  A  D   P  P      208
GGGGGACCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCC   1140
   G   G  P  R   P  G   L   R   R  A   P  V   K  D  T   P  G   R  A         228
CCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC   1200
   P   A  A  D   A  A   P  A   G  P   S  S   C  L  G   *                    243
CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG   1260
GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGC   1320
CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA   1380
TCCGCCACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCC   1440
CACACCCCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGG   1500
GGGTTTCCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATT   1560
AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCCTTAGA   1620
GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC   1680
AGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAA   1740
ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCG   1800
CTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC   1860
CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC   1920
ACCACACCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG   1980
CTGGTCTTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA   2040
TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT   2100
GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA   2160
```

TGAACTCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC 2220

TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG 2280

AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG 2340

TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC 2400

TGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCT 2460

TGCTGCTGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTA 2520

AAACAATGAAGATTAAAA 2538

Fig. 4

CL3:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC      60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA     120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG     180
                                  M   A   D   T   I   F   G   S   G   N   D   Q      12

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCTGCAGACGGGCTGGTCC     240
  W   V   C   P   N   D   R   Q   L   A   L   R   A   K   L   Q   T   G   W   S      32

GTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCGGAGGTG     300
  V   H   T   Y   Q   T   E   K   Q   R   R   K   Q   H   L   S   P   A   E   V      52

GAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAGCAGAGA     360
  E   A   I   L   Q   V   I   Q   R   A   E   R   L   D   V   L   E   Q   Q   R      72

ATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAACGGCCTG     420
  I   G   R   L   V   E   R   L   E   T   M   R   R   N   V   M   G   N   G   L      92

TCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTGTTCTGC     480
  S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   V   F   C     112

AAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGCCAGAAG     540
  K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G   Q   K     132

CGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGGTCGGGG     600
  R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R   S   G     152

GCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGCCGAGCT     660
  A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G   R   A     172

GATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGAAGCTCT     720
  D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R   S   S     192

GAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTCGTAGGAAGAAAGTGCTGATCC     780
  E   T   S   R   I   Y   T   W   A   R   G   R   V   V   G   R   K   C   *         210
```

```
ACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGGAGACGA   840
AAGGCCGCGTGTTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGTGACAGT   900
GACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTCAGGGAC   960
CGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGGATGGGG  1020
TTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGTGAGACG  1080
GGCACAGGCTCTGCTGACCCGCCAGGGGGAGGGACAGGCTCTGCTGACCCGCCAGGGGGA  1140
CCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCCCCCGCT  1200
GCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGCCTGGAA  1260
CAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCGGTCCTT  1320
GTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGCCGTCTG  1380
CCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCATCCGCC  1440
ACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCCCACACC  1500
CCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGGGGGTTT  1560

CCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATTAATGGC  1620
AAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCCTTAGAGGTGAG  1680
CATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTCAGCTCT  1740
GGGAGGCAGGCGCAGTGCCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAAACCTGG  1800
GTCTGTTTAGTTTCTTTGGTTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCGCTTTGT  1860
TGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCCCGGGCT  1920
CAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCCACCACA  1980
CCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGGCTGGTC  2040
```

```
TTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGATTACAG   2100
GTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCTGCCTGG   2160
TTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTATGAACT   2220
CACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCCTCAGCC   2280
ATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAGAGTATG   2340
GGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTGTCGGTG   2400
ATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTCTGGAAG   2460
GGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCTTGCTGC   2520
TGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTAAAACAA   2580
TGAAGATTAAAA                                                   2592
```

Fig. 5

CL4:

```
GGCTCCTCATCTGGAACACCTCGGGTCACCCCCGACAACGGTGGTGGGAGGGAGAGCGGC    60

CTCCTCCTCCCTGGTGGGGCCTGTCTGGGTGAAGCCCCTCTGTTCCCGAGGATCGTCCCA   120

ACCCCCAGCCGGGTGCTCCGAGCCATGGCCGACACCATCTTCGGCAGCGGGAATGATCAG   180

TGGGTTTGCCCCAATGACCGGCAGCTTGCCCTTCGAGCCAAGCACTGACTGCACAGCAGT   240

GAACAGGACCAACACAGTCCCTGGTCTTAAAGCACAGGTGGGCAGAGGCTGCAGACGGGC   300

TGGTCCGTGCACACCTACCAGACGGAGAAGCAGAGGAGGAAGCAGCACCTCAGCCCGGCG   360

GAGGTGGAGGCCATCCTGCAGGTCATCCAGAGGGCAGAGCGGCTCGACGTCCTGGAGCAG   420

CAGAGAATCGGGCGGCTGGTGGAGCGGCTGGAGACCATGAGGCGGAATGTGATGGGGAAC   480
                                          M   R   R   N   V   M   G   N     8

GGCCTGTCCCAGTGTCTGCTCTGCGGGGAGGTGCTGGGCTTCCTGGGCAGCTCGTCGGTG   540
  G   L   S   Q   C   L   L   C   G   E   V   L   G   F   L   G   S   S   S   V    28

TTCTGCAAAGACTGCAGGAAGAAAGTCTGCACCAAATGTGGGATCGAGGCCTCCCCTGGC   600
  F   C   K   D   C   R   K   K   V   C   T   K   C   G   I   E   A   S   P   G    48

CAGAAGCGGCCCCTGTGGCTGTGTAAGATCTGCAGTGAGCAAAGAGAGGTCTGGAAGAGG   660
  Q   K   R   P   L   W   L   C   K   I   C   S   E   Q   R   E   V   W   K   R    68

TCGGGGGCCTGGTTCTACAAAGGGCTCCCCAAGTATATCTTGCCCCTGAAGACCCCTGGC   720
  S   G   A   W   F   Y   K   G   L   P   K   Y   I   L   P   L   K   T   P   G    88

CGAGCTGATGACCCCCACTTCCGACCTTTGCCCACGGAACCGGCAGAGCGAGAGCCCAGA   780
  R   A   D   D   P   H   F   R   P   L   P   T   E   P   A   E   R   E   P   R   108

AGCTCTGAGACCAGCCGCATCTACACGTGGGCCCGAGGAAGAGTCGTAGGAAGAAAGTGC   840
  S   S   E   T   S   R   I   Y   T   W   A   R   G   R   V   V   G   R   K   C   128

TGATCCACGCTGCAGCCTGGATGAGTCCTTGAAAACACCATGCGAAGTGGAAGAAGCCGG   900

AGACGAAAGGCCGCGTGTTGTGTGATCTCATCTATATGAGCAGTGGTTTCCAGTGACAGT   960

GACAGTGACTCGGATCTTAGCTCCTCCAGCCTAGAGGACAGACTCCCATCCACTGGGGTC  1020

AGGGACCGGAAAGGCGACAAACCCTGGAAGGAGTCAGGTGGCAGCGTGGAGGCCCCCAGG  1080

ATGGGGTTCACCCAACCCGCGGGCCACCTCTTTGGGTTGCAGAGCAGCCTGGCCAGTGGT  1140
```

```
GAGACGGGCACAGGCTCTGCTGACCCGCCAGGGGGGGGGACAGGCTCTGCTGACCCGCCA    1200

GGGGGACCCCGCCCCGGGCTGACCCGAAGGGCCCCGGTAAAAGACACACCTGGACGAGCC    1260

CCCGCTGCTGACGCAGCTCCAGCAGGCCCCTCCAGCTGCCTGGGCTGAGGTGTCTGGTGC    1320

CTGGAACAGACTTCCCTGTGGAGGATTCCTGCCAGACCCTGCCCGGCTCCTCCCTGACCG    1380

GTCCTTGTGCCCTCACCAGACACCCTGTTGGCCATGACTCAACAAACCAGTGTTGGGAGC    1440

CGTCTGCCTCCCCAGCTCAGTGCCTTTCTGCACCCCTTCTCTCCTGGGGAGCTGTCTGCA    1500

TCCGCCACCCCCTCCAACCACTGCCCTCAGCCCCCGACCTTATTTATTACCCTCCCCTCC    1560

CACACCCCCAATCTACCTGGTGATGATTTTAAGTTTGCGCGTGTCTTGGGTTGGGCTGGG    1620

GGGTTTCCCACATGCAGTGTCAGAGGGGCCGCCCGGTGGGGCTATCTCCGTTGCTATATT    1680

AATGGCAAGACTAAATGAAACCTAGGGCACGGCCTCCGAAGCTGCGTGTGGCCCCTTAGA    1740


GGTGAGCATCAGAGCCAGAGCAGTGAGGGGGAGACTCACCCACCCTCTCCCTCTCCCTTC    1800

AGCTCTGGGAGGCAGGCGCAGTGCCCCCCTCCCATGGGCTGGCCCAGGACCGCGGGTGAA    1860

ACCTGGGTCTGTTTAGTTTCTTTGGTTTTTTGTATGTTTGTTTGTTTTTGACACAGTCTCG    1920

CTTTGTTGCCCAGGCTGGGGTGCAGTGGCACGATCGCGGCTCACTGCAACCTCCACCTCC    1980

CGGGCTCAAGCGATTCTCTCACCTCAGCCTCCTGAGTAGGTGGGATTACAGATGCCCGCC    2040

ACCACACCCAGTTAATTTTTGTATTTTTAGAAGAGATGGGGTTTCTCCATGTTGGCCAGG    2100

CTGGTCTTGAACTCCTGGTCTCAAGTGATCCGCCCGCCTCGGCCTCCCAAAGTGCTGGGA    2160

TTACAGGTGTGAGCCACCGCACCCAATCCTATTAGGTTTCTTTGAATCCCCTCATGGCCT    2220

GCCTGGTTTTTGCTCAGCCTGTCTTCAGCTTGAGGAGCTGGGAAGCTCTGGTGGATGCTA    2280

TGAACTCACTTGCTGAAGAGCAGCGTTCAGGTGCATCCCCAGCCAGGGCACGTGGCTCCC    2340

TCAGCCATGAATTCACTTCTCTTCAGGAGGTTTGGCTTGGCATGAAAATACTTCATTCAG    2400

AGTATGGGCAAATGCTTCTGGAAAACCCTTCCCTGAAGAGAGAGAACGTGTGTGTGTGTG    2460

TCGGTGATCACACCCTCCCATCCTTCCTGCCTCCTGCCCCAAACCCCGGGTTCCTGGGTC    2520

TGGAAGGGCCTTCTCTCCAAGCTGGGAGCTCCTGGGCCCCCACCATTCACTTTTTGTCCT    2580

TGCTGCTGGCAAACAGTAAAGAAACTCACTTTCCCTGTGGCACGTTATGCTTCAGAATTA    2640

AAACAATGAAGATTAAAA                                              2658
```

Fig. 6

```
            1          15 16          30 31          45 46          60 61          75 76          90

1 NOC2 ------------------------------------------------------------------------------------------------   0
2 NL1  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
3 LC1  GGCTCCTCATCTGGA ACACCTCGGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
4 LC2  GGCTCCTCATCTGGA ACACCTCGGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
5 LC3  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90
6 LC4  GGCTCCTCATCTGGA ACACCTCGGGTCACC CCCGACAACGGTGGT GGGAGGGAGAGCGGC CTCCTCCTCCCTGGT GGGGCCTGTCTGGGT  90


            91         105 106        120 121        135 136        150 151        165 166        180

1 NOC2 ------------------------------TCCCA ACCCCCAGCCGCGGGTG CTCCGAGCCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG  65
2 NL1  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGCGGGTG CTCCGAGCCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
3 LC1  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGCGGGTG CTCCGAGCCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
4 LC2  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGCGGGTG CTCCGAGCCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
5 LC3  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGCGGGTG CTCCGAGCCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
6 LC4  GAAGCCCCTCTGTTC CCGAGGATCGTCCCA ACCCCCAGCCGCGGGTG CTCCGAGCCCATGGCC GACACCATCTTCGGC AGCGGGAATGATCAG 180
```

```
                181      195 196      210 211      225 226      240 241      255 256      270

1 NOC2  TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- -------------- -------------- --------------  108
2 NL1   TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- -------------- -------------- --------------  223
3 LC1   TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- -------------- -------------- --------------  223
4 LC2   TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGCAC TGACTGCACAGCAGT GAACAGGACCAACAC AGTCCCTGGTCTTAA  270
5 LC3   TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGC-- -------------- -------------- --------------  223
6 LC4   TGGGTTTGCCCCAAT GACCGGCAGCTTGCC CTTCGAGCCAAGCAC TGACTGCACAGCAGT GAACAGGACCAACAC AGTCCCTGGTCTTAA  270

                271      285 286      300 301      315 316      330 331      345 346      360

1 NOC2  --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  179
2 NL1   --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  294
3 LC1   --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  294
4 LC2   AGCACAGGTGGGCAG AGGCTGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  360
5 LC3   --------------- ----TGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  294
6 LC4   AGCACAGGTGGGCAG AGGCTGCAGACGGGC TGGTCCGTGCACACC TACCAGACGGAGAAG CAGAGGAGGAAGCAG CACCTCAGCCCGGCG  360

                361      375 376      390 391      405 406      420 421      435 436      450

1 NOC2  GAGGTGGAGGCCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG  269
2 NL1   GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGGCG CTGGTGGAGCGGCTG  384
```

```
3 LC1   GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG 384
4 LC2   GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGAGCGGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG 450
5 LC3   GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGAGCGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG 384
6 LC4   GAGGTGGAGGCCATC CTGCAGGTCATCCAG AGGGCAGAGAGCGGGCTC GACGTCCTGGAGCAG CAGAGAATCGGGCGG CTGGTGGAGCGGCTG 450

        451             465 466         480 481         495 496         510 511         525 526     540

1 NOC2  GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG 359
2 NL1   GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG 474
3 LC1   GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG 474
4 LC2   GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG 540
5 LC3   GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG 474
6 LC4   GAGACCATGAGGCGG AATGTGATGGGGAAC GGCCTGTCCCAGTGT CTGCTCTGCGGGGAG GTGCTGGGCTTCCTG GGCAGCTCGTCGGTG 540

        541             555 556         570 571         585 586         600 601         615 616     630

1 NOC2  TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCCTGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC 449
2 NL1   TTCTGCAAAGACTGC AGGAAG--------- --------------- --------------- --------------- --------------- 495
3 LC1   TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCCTGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC 564
4 LC2   TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCCTGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC 630
5 LC3   TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCCTGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC 564
6 LC4   TTCTGCAAAGACTGC AGGAAGAAAGTCTGC ACCAAATGTGGGATC GAGGCCTCCCCCTGC CAGAAGCGGCCCCTG TGGCTGTGTAAGATC 630
```

```
            631        645 646        660 661        675 676        690 691        705 706        720

1 NOC2  TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC  539
2 NL1   --------------- ---GTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC  567
3 LC1   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC  654
4 LC2   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC  720
5 LC3   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC  654
6 LC4   TGCAGTGAGCAAAGA GAGGTCTGGAAGAGG TCGGGGGCCTGGTTC TACAAAGGGCTCCCC AAGTATATCTTGCCC CTGAAGACCCCTGGC  720


            721        735 736        750 751        765 766        780 781        795 796        810

1 NOC2  CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG  629
2 NL1   CGAGCTGATGAGCCC CAGTTCCGACCTTGG CCCACGGAACCGGCA GAGCGAGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG  657
3 LC1   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG  744
4 LC2   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG  810
5 LC3   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG  744
6 LC4   CGAGCTGATGACCCC CACTTCCGACCTTTG CCCACGGAACCGGCA GAGCGAGAGAGCCCAGA AGCTCTGAGACCAGC CGCATCTACACGTGG  810


            811        825 826        840 841        855 856        870 871        885 886        900

1 NOC2  GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------  643
2 NL1   GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------  671
3 LC1   GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------  758
```

```
                                                                                          824
 4 LC2  GCCCGAGGAAGAGT- --------------- --------------- --------------- --------------- ---------------
                                                                                          834
 5 LC3  GCCCGAGGAAGAGTC GTAGGAAGAAAGTGC TGATCCACGCTGCAG CCTGGATGAGTCCTT GAAAACACCATGCGA AGTGGAAGAAGCCGG
                                                                                          900
 6 LC4  GCCCGAGGAAGAGTC GTAGGAAGAAAGTGC TGATCCACGCTGCAG CCTGGATGAGTCCTT GAAAACACCATGCGA AGTGGAAGAAGCCGG


       901             915 916         930 931         945 946         960 961         975 976         990

                                                                                          689
 1 NOC2 --------------- --------------- ------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC
                                                                                          717
 2 NL1  --------------- --------------- ------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC
                                                                                          804
 3 LC1  --------------- --------------- ------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC
                                                                                          870
 4 LC2  --------------- --------------- ------------G GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC
                                                                                          924
 5 LC3  AGACGAAAGGCCGCG TGTTGTGTGATCTCA TCTATATGAGCAGTG GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC
                                                                                          990
 6 LC4  AGACGAAAGGCCGCG TGTTGTGTGATCTCA TCTATATGAGCAGTG GTTTCCAGTGACAGT GACAGTGACTCGGAT CTTAGCTCCTCCAGC


       991            1005 1006        1020 1021        1035 1036        1050 1051        1065 1066        1080

                                                                                          779
 1 NOC2 CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG
                                                                                          807
 2 NL1  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG
                                                                                          894
 3 LC1  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG
                                                                                          960
 4 LC2  CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCCTGGAAG GAGTCAGGTGGCAGC GTGGAGGCCCCCAGG
```

```
  5 LC3   CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCTGGAAG GAGTCAGGTGCCAGC GTGGAGGCCCCAGG  1014
  6 LC4   CTAGAGGACAGACTC CCATCCACTGGGGTC AGGGACCGGAAAGGC GACAAACCTGGAAG GAGTCAGGTGCCAGC GTGGAGGCCCCAGG  1080

          1081        1095 1096       1110 1111       1125 1126      1140 1141       1155 1156      1170

  1 NOC2  ATGGGGGTTCACCCAC CCGCGCGGGCCACCTC TCTGGGGTGCCAGAGC AGCCTGGCCAGTGGT GAGACGGG------- --------         847
  2 NL1   ATGGGGGTTCACCCAA CCCGCGGGGCCACCTC TTTGGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA  897
  3 LC1   ATGGGGGTTCACCCAA CCCGCGGGGCCACCTC TTTGGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA  984
  4 LC2   ATGGGGGTTCACCCAA CCCGCGGGGCCACCTC TTTGGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA 1050
  5 LC3   ATGGGGGTTCACCCAA CCCGCGGGGCCACCTC TTTGGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA 1104
  6 LC4   ATGGGGGTTCACCCAA CCCGCGGGGCCACCTC TTTGGGGTTGCAGAGC AGCCTGGCCAGTGGT GAGACGGGCACAGGC TCTGCTGACCCGCCA 1170

          1171        1185 1186       1200 1201       1215 1216      1230 1231       1245 1246      1260

  1 NOC2  -------GACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGAGCC  929
  2 NL1   GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGCC    987
  3 LC1   GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGAGCC 1074
  4 LC2   GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGAGCC 1140
  5 LC3   GGGGGAGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGAGCC 1194
  6 LC4   GGGGGGGGGACAGGC TCTGCTGACCCGCCA GGGGGACCCCGCCCC GGGGCTGACCCGAAGG GCCCCGGTAAAAGAC ACACCTGGACGAGAGCC 1260
```

```
              1261            1275 1276       1290 1291       1305 1306       1320 1321        1335 1336    1350

 1 NOC2  CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGAGACTTCC CTGTGGAGGATTCCT 1019
 2 NL1   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGAGACTTCC CTGTGGAGGATTCCT 1077
 3 LC1   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGAGACTTCC CTGTGGAGGATTCCT 1164
 4 LC2   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGAGACTTCC CTGTGGAGGATTCCT 1230
 5 LC3   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGAGACTTCC CTGTGGAGGATTCCT 1284
 6 LC4   CCCGCTGCTGACGCA GCTCCAGCAGGCCCC TCCAGCTGCCTGGGC TGAGGTGTCTGGTGC CTGGAACAGAGACTTCC CTGTGGAGGATTCCT 1350

              1351            1365 1366       1380 1381       1395 1396       1410 1411        1425 1426    1440

 1 NOC2  GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC 1109
 2 NL1   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC 1167
 3 LC1   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC 1254
 4 LC2   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC 1320
 5 LC3   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC 1374
 6 LC4   GCCAGACCCTGCCCG GCTCCTCCCTGACCG GTCCTTGTGCCCTCA CCAGACACCCTGTTG GCCATGACTCAACAA ACCAGTGTTGGGAGC 1440

              1441            1455 1456       1470 1471       1485 1486       1500 1501        1515 1516    1530

 1 NOC2  CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCCTCAG 1199
 2 NL1   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCCTCAG 1257
 3 LC1   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCCTCAG 1344
```

```
                                                          1545 1546     1560 1561     1575 1576     1590 1591     1605 1606 1620

4 LC2   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1410
5 LC3   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1464
6 LC4   CGTCTGCCTCCCCAG CTCAGTGCCTTTCTG CACCCCTTCTCTCCT GGGGAGCTGTCTGCA TCCGCCACCCCCTCC AACCACTGCCCTCAG  1530


1531

1 NOC2  CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG  1289
2 NL1   CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG  1347
3 LC1   CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG  1434
4 LC2   CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG  1500
5 LC3   CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG  1554
6 LC4   CCCCCGACCTTATTT ATTACCCTCCCCTCC CACACCCCCAATCTA CCTGGTGATGATTTT AAGTTTGCGCGTGTC TTGGGTTGGGCTGGG  1620


                                                          1635 1636     1650 1651     1665 1666     1680 1681     1695 1696 1710

1621

1 NOC2  GGGTTTCCCACATGC AGTGTCAGAGAGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC  1379
2 NL1   GGGTTTCCCACATGC AGTGTCAGAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC  1437
3 LC1   GGGTTTCCCACATGC AGTGTCAGAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC  1524
4 LC2   GGGTTTCCCACATGC AGTGTCAGAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC  1590
5 LC3   GGGTTTCCCACATGC AGTGTCAGAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC  1644
6 LC4   GGGTTTCCCACATGC AGTGTCAGAGAGGGGCC GCCCGGTGGGGCTAT CTCCGTTGCTATATT AATGGCAAGACTAAA TGAAACCTAGGGCAC  1710
```

```
                1711        1725 1726     1740 1741     1755 1756     1770 1771     1785 1786     1800

1 NOC2  GGCCTCCGAAGCTGC  GTGTGGCCCCTTAGA  GGTGAGCATCAGAGC  CAGAGCAGTGAGGGG  GAGACTCACCCACCC  TCTCCCTCTCCCTTC  1469
2 NL1   GGCCTCCGAAGCTGC  GTGTGGCCCCTTAGA  GGTGAGCATCAGAGC  CAGAGCAGTGAGGGG  GAGACTCACCCACCC  TCTCCCTCTCCCTTC  1527
3 LC1   GGCCTCCGAAGCTGC  GTGTGGCCCCTTAGA  GGTGAGCATCAGAGC  CAGAGCAGTGAGGGG  GAGACTCACCCACCC  TCTCCCTCTCCCTTC  1614
4 LC2   GGCCTCCGAAGCTGC  GTGTGGCCCCTTAGA  GGTGAGCATCAGAGC  CAGAGCAGTGAGGGG  GAGACTCACCCACCC  TCTCCCTCTCCCTTC  1680
5 LC3   GGCCTCCGAAGCTGC  GTGTGGCCCCTTAGA  GGTGAGCATCAGAGC  CAGAGCAGTGAGGGG  GAGACTCACCCACCC  TCTCCCTCTCCCTTC  1734
6 LC4   GGCCTCCGAAGCTGC  GTGTGGCCCCTTAGA  GGTGAGCATCAGAGC  CAGAGCAGTGAGGGG  GAGACTCACCCACCC  TCTCCCTCTCCCTTC  1800


                1801        1815 1816     1830 1831     1845 1846     1860 1861     1875 1876     1890

1 NOC2  AGCTCTGGGGAGGCAG  GCGCAGTGCCCCCCT  CCCATGGGCTGGCCC  AGGACCGCGGGGTGAA  ACCTGGGTCTGTTTA  GTTTCTTTGGTTTTT  1559
2 NL1   AGCTCTGGGGAGGCAG  GCGCAGTGCCCCCCT  CCCATGGGCTGGCCC  AGGACCGCGGGGTGAA  ACCTGGGTCTGTTTA  GTTTCTTTGGTTTTT  1617
3 LC1   AGCTCTGGGGAGGCAG  GCGCAGTGCCCCCCT  CCCATGGGCTGGCCC  AGGACCGCGGGGTGAA  ACCTGGGTCTGTTTA  GTTTCTTTGGTTTTT  1704
4 LC2   AGCTCTGGGGAGGCAG  GCGCAGTGCCCCCCT  CCCATGGGCTGGCCC  AGGACCGCGGGGTGAA  ACCTGGGTCTGTTTA  GTTTCTTTGGTTTTT  1770
5 LC3   AGCTCTGGGGAGGCAG  GCGCAGTGCCCCCCT  CCCATGGGCTGGCCC  AGGACCGCGGGGTGAA  ACCTGGGTCTGTTTA  GTTTCTTTGGTTTTT  1824
6 LC4   AGCTCTGGGGAGGCAG  GCGCAGTGCCCCCCT  CCCATGGGCTGGCCC  AGGACCGCGGGGTGAA  ACCTGGGTCTGTTTA  GTTTCTTTGGTTTTT  1890


                1891        1905 1906     1920 1921     1935 1936     1950 1951     1965 1966     1980

1 NOC2  GTATGTTTGTTTGTT  TTTGACACAGTCTCG  CTTTGTTGCCCAGGC  TGGGGTGCAGTGGCA  CGATCGCGGCTCACT  GCAACCTCCACCTCC  1649
2 NL1   GTATGTTTGTTTGTT  TTTGACACAGTCTCG  CTTTGTTGCCCAGGC  TGGGGTGCAGTGGCA  CGATCGCGGCTCACT  GCAACCTCCACCTCC  1707
```

```
3 LC1   GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC 1794
4 LC2   GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC 1860
5 LC3   GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC 1914
6 LC4   GTATGTTTGTTTGTT TTTGACACAGTCTCG CTTTGTTGTTGCCCAGGC TGGGGTGCAGTGGCA CGATCGCGGCTCACT GCAACCTCCACCTCC 1980

        1981       1995 1996        2010 2011        2025 2026        2040 2041        2055 2056        2070

1 NOC2  CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG 1739
2 NL1   CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG 1797
3 LC1   CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG 1884
4 LC2   CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG 1950
5 LC3   CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG 2004
6 LC4   CGGGCTCAAGCGATT CTCTCACCTCAGCCT CCTGAGTAGGTGGGA TTACAGATGCCCGCC ACCACACCCAGTTAA TTTTTGTATTTTTAG 2070

        2071       2085 2086        2100 2101        2115 2116        2130 2131        2145 2146        2160

1 NOC2  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA 1829
2 NL1   AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA 1887
3 LC1   AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA 1974
4 LC2   AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCAAGTGATC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA 2040
```

```
 5 LC3  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCTTGAACTCC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA     2094
 6 LC4  AAGAGATGGGGTTTC TCCATGTTGGCCAGG CTGGTCTTGAACTCC TGGTCTCTTGAACTCC CGCCCGCCTCGGCCT CCCAAAGTGCTGGGA     2160
        2161            2175 2176                      2190 2191            2205 2206            2220 2221            2235 2236            2250

 1 NOC2  TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTGCTC  AGCCTGTCTTCAGCT     1919
 2 NL1   TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTGCTC  AGCCTGTCTTCAGCT     1977
 3 LC1   TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTGCTC  AGCCTGTCTTCAGCT     2064
 4 LC2   TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTGCTC  AGCCTGTCTTCAGCT     2130
 5 LC3   TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTGCTC  AGCCTGTCTTCAGCT     2184
 6 LC4   TTACAGGTGTGAGCC ACCGCACCCAATCCT ATTAGGTTTCTTTGA ATCCCCTCATGGCCT GCCTGGTTTTGCTC  AGCCTGTCTTCAGCT     2250
        2251            2265 2266            2280 2281            2295 2296            2310 2311            2325 2326            2340

 1 NOC2  TGAGGAGCTGGGAAG CTCTGGTGGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC     2009
 2 NL1   TGAGGAGCTGGGAAG CTCTGGTGGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC     2067
 3 LC1   TGAGGAGCTGGGAAG CTCTGGTGGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC     2154
 4 LC2   TGAGGAGCTGGGAAG CTCTGGTGGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC     2220
 5 LC3   TGAGGAGCTGGGAAG CTCTGGTGGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC     2274
 6 LC4   TGAGGAGCTGGGAAG CTCTGGTGGGATGCTA TGAACTCACTTGCTG AAGAGCAGCGTTCAG GTGCATCCCCAGCCA GGGCACGTGGCTCCC     2340
```

```
              2341        2355 2356   2370 2371   2385 2386   2400 2401   2415 2416    2430

1 NOC2  TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT  2099
2 NL1   TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT  2157
3 LC1   TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT  2244
4 LC2   TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT  2310
5 LC3   TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT  2364
6 LC4   TCAGCCATGAATTCA CTTCTCTTCAGGAGG TTTGGCTTGGCATGA AAATACTTCATTCAG AGTATGGGCAAATGC TTCTGGAAAACCCTT  2430

              2431        2445 2446   2460 2461   2475 2476   2490 2491   2505 2506    2520

1 NOC2  CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC  2189
2 NL1   CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC  2247
3 LC1   CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC  2334
4 LC2   CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC  2400
5 LC3   CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC  2454
6 LC4   CCCTGAAGAGAGAGA ACGTGTGTGTGTGTG TCGGTGATCACACCC TCCCATCCTTCCTGC CTCCTGCCCCAAACC CCGGGTTCCTGGGTC  2520

              2521        2535 2536   2550 2551   2565 2566   2580 2581   2595 2596    2610

1 NOC2  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT  2279
2 NL1   TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT  2337
```

```
3 LC1  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT  2424
4 LC2  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT  2490
5 LC3  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT  2544
6 LC4  TGGAAGGGCCTTCTC TCCAAGCTGGGAGCT CCTGGGCCCCCACCA TTCACTTTTTGTCCT TGCTGCTGGCAAACA GTAAAGAAACTCACT  2610


      2611       2625 2626      2640 2641       2655 2656

1 NOC2 TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA  2327
2 NL1  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA  2385
3 LC1  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA  2472
4 LC2  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA  2538
5 LC3  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA  2592
6 LC4  TTCCCTGTGGCACGT TATGCTTCAGAATTA AAACAATGAAGATTA AAA  2658
```

Fig. 7

```
                1         15 16        30 31        45 46        60 61        75 76        90
                                                                                       90
1 NOC2  MADTIFGSGNDQWVC  PNDRQLALRAKLQTG  WSVHTYQTEKQRRKQ  HLSPAEVEAILQVIQ  RAERLDVLEQQRIGR  LVERLETMRRNVMGN    90

2 NL1   MADTIFGSGNDQWVC  PNDRQLALRAKLQTG  WSVHTYQTEKQRRKQ  HLSPAEVEAILQVIQ  RAERLDVLEQQRIGR  LVERLETMRRNVMGN    90

3 LC1   MADTIFGSGNDQWVC  PNDRQLALRAKLQTG  WSVHTYQTEKQRRKQ  HLSPAEVEAILQVIQ  RAERLDVLEQQRIGR  LVERLETMRRNVMGN    90

4 LC2   ---------------  ---------------  ---------------  ---------------  ---------------  ------MRRNVMGN      8

5 LC3   MADTIFGSGNDQWVC  PNDRQLALRAKLQTG  WSVHTYQTEKQRRKQ  HLSPAEVEAILQVIQ  RAERLDVLEQQRIGR  LVERLETMRRNVMGN    90

6 LC4   ---------------  ---------------  ---------------  ---------------  ---------------  ------MRRNVMGN      8


            91        105 106       120 121       135 136       150 151       165 166       180
                                                                                       180
1 NOC2  GLSQCLLCGEVLGFL  GSSSVFCKDCRKKVC  TKCGIEASPGQKRPL  WLCKICSEQREVWKR  SGAWFYKGLPKYILP  LKTPGRADDPHFRPL   180

2 NL1   GLSQCLLCGEVLGFL  GSSSVFCKDCRK---  ---------------  ---------VWKR    SGAWFYKGLPKYILP  LKTPGRADEPQERPW   151

3 LC1   GLSQCLLCGEVLGFL  GSSSVFCKDCRKKVC  TKCGIEASPGQKRPL  WLCKICSEQREVWKR  SGAWFYKGLPKYILP  LKTPGRADDPHFRPL   180

4 LC2   GLSQCLLCGEVLGFL  GSSSVFCKDCRKKVC  TKCGIEASPGQKRPL  WLCKICSEQREVWKR  SGAWFYKGLPKYILP  LKTPGRADDPHFRPL    98

5 LC3   GLSQCLLCGEVLGFL  GSSSVFCKDCRKKVC  TKCGIEASPGQKRPL  WLCKICSEQREVWKR  SGAWFYKGLPKYILP  LKTPGRADDPHFRPL   180

6 LC4   GLSQCLLCGEVLGFL  GSSSVFCKDCRKKVC  TKCGIEASPGQKRPL  WLCKICSEQREVWKR  SGAWFYKGLPKYILP  LKTPGRADDPHFRPL    98
```

08964275:060702

```
            181         195 196      210 211      225 226      240 241      255 256      270

 1 NOC2  PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTH PPGHLSGCQSSLASG  270
 2 NL1   PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG  241
 3 LC1   PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG  270
 4 LC3   PTEPAEREPRSSETS RIYTWARGRVVGRKC -------------- -------------- -------------- --------------   210
 5 LC4   PTEPAEREPRSSETS RIYTWARGRVVGRKC -------------- -------------- -------------- --------------   128
 6 LC2   PTEPAEREPRSSETS RIYTWARGRVVSSDS DSDSDLSSSSLEDRL PSTGVRDRKGDKPWK ESGGSVEAPRMGFTQ PAGHLFGLQSSLASG  188


            271         285 286      300 301      315 316      330

 1 NOC2  ETGTGSADPPGG--- -------PRPGLTRR APVKDTPGRAPAADA APAGPSSCLG  315
 2 NL1   ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG  296
 3 LC1   ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG  325
 4 LC2   ETGTGSADPPGGGTG SADPPGGPRPGLTRR APVKDTPGRAPAADA APAGPSSCLG  243
 5 LC3   -------------- -------------- --------------              210
 6 LC4   -------------- -------------- --------------              128
```